

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An ultrasonic transmitting and receiving apparatus comprising:
an ultrasonic probe including plural ultrasonic transducers arranged in a two-dimensional array;
plural transmitting circuits for respectively generating plural drive signals to be supplied to said ultrasonic probe so as to transmit an ultrasonic beam;
plural receiving circuits for respectively processing plural detection signals output from said ultrasonic probe which has received an ultrasonic echo;
switching means for selectively connecting changing electrical connection between (i) a predetermined number of ultrasonic transducers included in said plural ultrasonic transducers to and (ii) a predetermined number of transmitting circuits included in said plural transmitting circuits and/or a predetermined number of receiving circuits included in said plural receiving circuits; and
control means for controlling said switching means to partially change a sparse pattern of the ultrasonic transducers, which transmit and/or receive ultrasonic waves, in accordance with a steering direction of the ultrasonic beam to be transmitted.

2. (canceled).

3. (currently amended): An ultrasonic transmitting and receiving apparatus according to claim 2 1, further comprising:
rewritable storing means for storing information representing plural sparse patterns of said predetermined number of the ultrasonic transducers, which transmit and/or receive

ultrasonic waves, in accordance with a steering ~~range~~ direction of the ultrasonic beam to be transmitted.

4. (original): An ultrasonic transmitting and receiving apparatus according to claim 1, wherein said switching means is disposed in an ultrasonic transmitting and receiving apparatus main body.

5. (canceled).

6. (original): An ultrasonic transmitting and receiving apparatus according to claim 3, wherein said switching means is disposed in an ultrasonic transmitting and receiving apparatus main body.

7. - 10. (canceled).

11. (currently amended): An ultrasonic transmitting and receiving method comprising the steps of:

(a) changing electrical connection between (i) a predetermined number of ultrasonic transducers included in plural ultrasonic transducers arranged in a two-dimensional array and (ii) a predetermined number of transmitting circuits included in plural transmitting circuits and/or a predetermined number of receiving circuits included in plural receiving circuits to partially change a sparse pattern of the ultrasonic transducers, which transmit and/or receive ultrasonic waves, in accordance with a steering ~~range~~ direction of an ultrasonic beam to be transmitted; and

(b) transmitting an ultrasonic beam and/or receiving an ultrasonic echo in accordance with the sparse pattern changed at step (a).